

# Data Storage

Bits



# Bits

## Basic

- ✓ **S:** Information is coded as pattern of 0 or 1
- ✓ Short form of Binary Digits
- ✓ One bit can contain only one value 0 or 1

# Bits

## What they can

✓ ~~represent~~ **represent:** representing numbers, text, audio, video, image etc

✓ In Chip electric Charge 0/1

# Bytes and other units

## Different Units

Bytes 1	Bits 8
Kilo Byte 1	Bytes 1024
Mega Byte 1	Kilo Bytes 1024
Giga Byte 1	Mega Byte 1024
Tera Byte 1	Giga Byte 1024

# Patterns using Bits

- ✓ 1 bit - 2 patterns
- ✓ 2 bits - 4
- ✓ 3 bits - 8
- ✓ 4 bits - 16
- ✓ 5 bits - 32
- ✓ 6 bits - 64
- ✓ 7 bits - 128
- ✓ 8 bits - 256 - one byte

# Bytes and Characters

- ✓  $A = 65$
- ✓  $B = 66$
- ✓  $a = 97$
- ✓  $\text{Space} = 32$

# Decimal to Binary

Lets represent 25 in binary

<b>12</b>	<b>6</b>	<b>32</b>	<b>16</b>	<b>8</b>	<b>4</b>	<b>2</b>	<b>1</b>
<b>8</b>	<b>4</b>						
0	0	0	1	1	0	0	1

# Summary

## **Bits and**

## **Bytes**

- ✓ Basics
- ✓ Binary Representation
- ✓ Units
- ✓ Patterns
- ✓ How to represent a decimal value in Binary